

ICE DISPENSER AND DISPLAY

FIELD OF THE INVENTION

The present invention relates to ice dispensing apparatus in general and to ice dispensing apparatus accessible to retail consumers in particular.

BACKGROUND OF THE INVENTION

Soft drinks such as colas, fruit juices and mineral waters, are popularly served chilled. The most effective way to maintain a dispensed beverage at a reduced temperature throughout the period of time required to consume the drink, is to mix water ice with the beverage. Combination beverage and ice dispensers are well known to the art. Typically, these devices combine an ice chest either above or below the counter which dispenses crushed or cube ice from a cup actuated spigot into the consumer's empty cup. Lever actuated beverage dispensers are located alongside the ice dispenser and are typically supplied by fountain beverages stored in refrigerated conditions at a remote location and piped to the dispenser through flexible tubing. In the past, such self-service beverage dispensers have been located in cafeteria line type restaurants or in employee dining areas. More recently, convenience stores, often in connection with retail gasoline sales outlets, have offered a wide range of ready-to-eat snacks or meals. In such a location, fountain beverages are made available for self-service dispensing by the customer. Typically, a customer will select the serving size beverage container desired, fill the container with the desired beverage and proportion of ice and pay for the beverage along with other purchases at a checkout counter. By making beverages available on a self-service basis, labor costs are reduced, and customers are free to select their desired beverage with or without ice at their leisure. Because customers may enter a convenience store for numerous reasons other than dining purposes, a convenience store beverage dispenser must serve as an advertisement or display for the products dispensed in order to appeal to impulse purchasers. It has generally been observed that a consumer is more likely to purchase an item which is visible to him prior to the purchase. In this way a consumer may judge the quality and appeal of the item before making the decision to buy. Conventional beverage and ice dispensers however, due to the need to refrigerate and store at reduced temperatures the contents commonly have blank metal exteriors or printed or luminated signs or facia. These printed and ornamental displays may induce favorable consumer response by suggesting coolness and satisfaction of thirst, but mere images are generally less effective than the actual product.

What is needed is an ice dispenser for self-service use which provides for consumer display of the ice to be dispensed.

SUMMARY OF THE INVENTION

The combination ice dispenser and display of the present invention provides an attractive and fully visible display of ice prior to its dispensing from the machine. The ice dispenser has an insulated ice chest mounted to a dispenser housing. A conduit extends from the ice chest to an ice discharge opening. The conduit communicates with the ice chest to receive ice therefrom. Portions of the conduit are transparent and define a transparent conduit segment which is visible to

an ice dispenser user. A flexible looped cable extends through the conduit. A plurality of paddles are connected to the cable at spaced intervals. The paddles are advanced through the conduit as the cable is pulled.

The paddles engage against and convey ice from the ice chest through the transparent conduit segment to the ice discharge opening, making ice to be dispensed visible through the transparent conduit segment to the ice consumer. The transparent conduit segment has an inner transparent tube and an outer transparent tube surrounding the inner tube which defines an insulative gap between the two tubes. The gap is filled with inert gas. An ice return tube extends from a position in the conduit downstream of the discharge opening. The return tube extends from the conduit to the ice chest to allow recirculation of the undispensed ice. A rotatable auger is mounted within the chest to advance ice from the chest into the conduit.

It is an object of the present invention to provide an ice dispenser which displays the ice to be dispensed to a consumer.

It is another object of the present invention to provide an ice dispenser having an ice chest positioned beneath the counter with an ice flow path which is curvilinear.

It is a further object of the present invention to provide an ice dispenser which may rapidly advance ice from a storage chest to a dispensing outlet.

Further objects, features and advantages of the invention will be apparent from the following detailed description when taken in conjunction with the accompanying drawings showing the preferred embodiment of the invention.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a front elevational view, partly broken away, of the ice dispenser of the present invention.

FIG. 2 is a fragmentary isometric view, partly broken away, of the display tube of the ice dispenser of FIG. 1.

FIG. 3 is a top plan view of the ice dispensing mechanism of the ice dispenser of FIG. 1 in an open position.

FIG. 4 is a top plan view of the mechanism of FIG. 3 shown in a closed position.

FIG. 5 is a rear elevational view, partly broken away, of the ice dispenser of FIG. 1.

FIG. 6 is a cross-sectional view of the ice dispenser of FIG. 1 taken along section line 6-6.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring more particularly to FIGS. 1-6, wherein like numbers refer to similar parts, an ice dispenser with visible ice display 20 is shown in FIG. 1.

The dispenser 20 has a free standing housing 22 to which are mounted an ice chest 24 and a tubular conduit 26. The conduit 26 has a transparent display segment 28. A flexible cable paddle assembly 30 runs through the conduit 26 and is driven by a sprocket wheel 32 to advance ice 34 from the ice chest 24 to three ice outlets 36, 37.

The housing 22 is freestanding and self-supporting and has a square tubular steel frame 38 to which decorative exterior panels 40 are mounted. The exterior panels 40 are preferably removable or hinged to the housing 22 to permit easy access to the ice dispenser interior.

The ice chest 24 is connected to the housing frame 38 and is preferably formed of a stainless steel tank 42 with